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13. ABSTRACT (Maximum 200) Four trainees were enrolled in the training program at the commencement of YR 2, all graduate students in the APA-approved clinical health psychology program. One trainee completed her graduate coursework, defended her dissertation, secured an APA-approved internship, and submitted a proposal for a DOD-sponsored post-doctoral fellowship in breast cancer research. She was succeeded by a new trainee. Training throughout YR 2 was closely coordinated with 5 ongoing ACS-funded and NCI-funded biopsychosocial breast cancer research projects. Trainees also participated in the preparation of new grant proposals focusing on the biopsychosocial aspects of breast cancer. All trainees were exposed through coursework to experimental design and statistics as well as psychosocial, biobehavioral and pathophysiologic perspectives on breast carcinoma and other chronic diseases. The latter focus is extended through the program's weekly Psycho-Oncology Clinical Workshop, weekly Breast Cancer Team Research meeting, and the monthly Psychoneuroimmunology Journal Club meeting. This report summarizes the development and growth of the training program across the following areas: Symposia/Didactic Experiences; Active Biopsychosocial Breast Cancer Research Protocols; Cancer Center Programs, Facilities and Resources; Trainee Progress; and Publications and Presentations of Training Program Faculty and Trainees. All four trainees are making excellent progress in coursework, research training and clinical training.						
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FOREWORD

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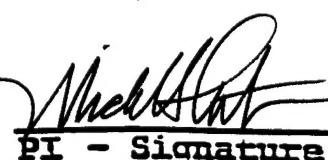
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(5) INTRODUCTION

A. Statement of the Problem

A diagnosis of breast cancer and subsequent treatment are known to bring about significant distress, disruption and sexual dysfunction in the lives of women who experience them. Factors such as socioeconomic status, treatment modality, patient perceptions, coping strategies and social support have all been shown to influence the ways in which women adjust to these events. Behavioral interventions developed on the basis of the results of systematic studies of this adjustment process have the potential to foster positive expectancies about the future, can alter patient's coping responses and health maintenance behaviors, increase their sense of support from others, and facilitate an attitude of re-engagement with life. While studies of ethnic minority women have been conducted on breast cancer incidence and survival rates and on tendencies to use or avoid mammography virtually no data exist on the predictors of psychosocial sequelae of breast cancer in these groups. This represents a serious limitation in our ability to develop effective behavioral interventions to facilitate the adjustment process in these populations.

These research agenda, central to ongoing collaborative work between the Division of Health Psychology and the University of Miami School of Medicine, intersect with at least two fundamental questions included in the framework for basic, clinical and public health research projects put forth in the September 15, 1993 announcement of the U.S. Army Medical Research and Development Command. These fundamental research issues include:

- (1) Studying the impact of risk, disease, treatment and ongoing care on the psychosocial and clinical outcomes of breast cancer patients and their families;
- (2) Defining and identifying (intervention) techniques for delivering effective and cost-effective health care to all women to prevent, detect, diagnose, treat and facilitate recovery from breast cancer.

In order to address these research agenda it is necessary to bring together a multidisciplinary team of talented investigators with expertise in social psychology, behavioral medicine, clinical health psychology, biostatistics/epidemiology, psychiatry and oncology. Traditionally, however, lack of communication among scientists in different disciplines and limited competence in the methodologies of different disciplines have been major obstacles to successful integrative research.

B. Background of Previous Work

At the University of Miami we have overcome many of the obstacles noted above. First, an NIMH Center for the Biopsychosocial Study of AIDS under the direction of Carl Eisdorfer, M.D., Ph.D. brought together a large number of research scientists from

different disciplines and taught them to work together on multidisciplinary research problems related to this other major health problem. These included several talented behavioral scientists, biomedical researchers and biostatisticians, and internists interested in the influence of behavior on health status in AIDS. At the same time our Division of Health Psychology was conducting an NHLBI Program Project on hypertension led by Neil Schneiderman, Ph.D. (Director of Health Psychology Division). This program project brought together behavioral scientists, physiologists, biochemists, and internists to conduct several interrelated studies exploring the influence of behavior, ethnicity and gender on the pathophysiology of cardiovascular disease and hypertension. Many of the scientists from the NIMH center and the NHLBI Program Project are now conducting research together and co-supervising graduate students and post-doctoral fellows in our associated training programs.

Over the past five years, two large training programs (NHLBI training program: HL07426-15; NIMH training program: MH18917-01) have facilitated the training of several pre-doctoral graduate students and post-doctoral fellows in our division of Health Psychology. Each of these training programs brought together multidisciplinary faculty to train our students and fellows through the development of coursework, weekly research meetings, exposure to major scientists in the field who served as consultants, laboratory rotations, and closely supervised research and clinical experiences. Our present roster of research activities includes, but is not limited to two 5-year funded program projects (P01), individual investigator awards focused upon breast cancer (ACS-funded) and cervical cancer (NCI-funded), and a series of pilot studies used to develop and test experimental interventions with breast cancer patients.

A unique feature of the proposed training program is the fact that it exists within the context of ongoing research studies (R01), program projects (P01) and co-existing training grants all centered around the examination of the effects of behavior and ethnicity on adjustment to and progression of chronic diseases. Specifically, the NHLBI training grant and program project are focused upon examining the influence of behavior, ethnicity and gender on stress responsivity, hypertension and diabetes. A new focus of this work commencing in YR 2 of this DoD training grant, examines the effects of cognitive-behavioral stress management intervention on mental and physical health status patients who are recovering from a myocardial infarction. The NIMH training grant and program project are both dedicated to exploring the effects of behavior and ethnicity on adjustment to and management of HIV-1 infection. During YR 2 another NIMH-funded R01 was awarded to our group (P.I.: S. Weiss, co-P.I.: N. Schneiderman) to investigate the effects of a cognitive behavioral stress management intervention (developed by Dr. Antoni) on adjustment in women with AIDS. Two ongoing psycho-oncology programs led by Dr. Antoni focus on the influence of behavior on health outcomes in minority women recently diagnosed with early-stage breast cancer or pre-clinical cervical neoplastic changes. One of these, an NCI-funded project (NCI 5 P30CA14395) examines the role of stressors,

coping and social support upon cervical neoplasia and related immune measures in African American women who carry multiple viral risk factors for cervical carcinoma. A second study funded by the American Cancer Society (ACS #PBR-82) exploring the role of coping and social support as predictors of adjustment to mastectomy among African American and Hispanic American breast cancer patients, was completed during YR 2 of the training grant. The latter study recruited patients through the Breast Health Center (Director: Neil Love, M.D.) within the NCI-funded Sylvester Comprehensive Cancer Center. With the completion of this study there is now a large amount of data available for analysis by trainees and each is encouraged to utilize this and other cancer-related databases to generate abstracts and manuscripts for presentation and publication, respectively.

In addition to the two psycho-oncology projects just described, several additional programs led or co-led by Dr. Antoni or Dr. Weiss and training program faculty were funded and commenced in YR 1 of the present training program and continued during YR 2. These included (1) an NCI-funded R01 project (1R01CA64710-01) entitled "Coping with Breast Cancer in Younger Women" (P.I. : C. Carver, co-P.I.: M. Antoni); (2) an NCI-supplemental project (1R01CA64710-01) entitled "Lifestyle and Breast Cancer in Cultural and Sexual Minorities" (P.I.: C. Carver); (3) an NCI-funded project entitled "PDQ/PIF Evaluation in Multiethnic Populations" (P.I.: S. Weiss); and (4) a developmental grant funded by the Sylvester Cancer Center entitled " Stress Management Intervention for Women with Breast Cancer"(P.I. : G. Ironson). During YR 2 two additional grant proposals were submitted to the DoD to investigate (1) the effects of a group-based stress management intervention on quality of life, immune function and health in older women with early-stage breast cancer who are dealing with the stress of diagnosis and surgery (P.I., M.H. Antoni), and (2) the effects of stress management on mood and immune function in early-stage breast cancer patients who have completed their adjuvant therapy (P.I.: G.Ironson, co-P.I.: S. Weiss). It is noteworthy that each of the four ongoing projects as well as the two proposed projects involves the examination of the efficacy of psychosocial interventions with breast cancer patients, thus providing a large number of training opportunities for the trainees. Each trainee is involved in research activities on at least one of these breast cancer projects.

In sum, we continue to be in a unique position to provide rich training in psycho-oncology and breast cancer. First, we have available for study a large multiethnic population of breast cancer patients. Second, our medical complex, including the Sylvester Comprehensive Cancer Center, is the major treatment center for breast cancer patients in South Florida and is actively involved in ongoing clinical trials and basic biomedical research protocols. Moreover, Courtelis Center for Research and Treatment in Psychosocial Oncology, led by Dr. Weiss, the co-P.I. of this training grant, has developed into a major treatment and research center within the university and continues to play a central role in providing clinical and research training opportunities for our trainees.

Third, we have a substantial number of extramurally funded research projects that are investigating relationships among psychosocial variables, health, adjustment and behavioral management of chronic diseases such as breast cancer, cervical cancer, HIV-1 infection, hypertension and diabetes. Fourth, we have a collegial, interactive faculty with demonstrated expertise in social psychology, behavioral medicine/clinical health psychology, epidemiology and biostatistics, psychiatry and oncology as these disciplines relate to the study of breast cancer. Fifth, we have a large pool of trainee applicants to our graduate program who are both qualified and interested in entering our training program and developing research careers. Sixth, our faculty is experienced in the intricacies of conducting collaborative research and training and has already worked together in administering two other health-related training grants.

C. Purpose of the Present Work

This program was designed to provide multidisciplinary research training in biopsychosocial aspects of breast cancer in the context of predoctoral training in Clinical Health Psychology leading to the terminal degree of Ph.D..

D. Methods of Approach

This program provides multidisciplinary research training in biopsychosocial aspects of breast cancer. Training is closely coordinated with ongoing research projects in breast cancer being conducted by Training Program faculty. The Training Program makes use of the faculty, resources, and experiences that are readily available at the Sylvester Comprehensive Cancer Center (SCCC) and those that we have secured from our ongoing NIMH and NHLBI training grants and parallel NIMH and NHLBI program projects (P01) that are focused on other chronic disease processes. Trainees are graduate students in Psychology (Health Psychology/Behavioral Medicine) and have offices in the Behavioral Medicine Research Center on the campus of the University of Miami School of Medicine Complex or at the Behavioral Medicine Research Building on the Coral Gables campus. The program was designed to offer the trainees the complete APA-approved academic program in Clinical Health Psychology in addition to participating in academic (didactic), research, and clinical activities specific to the biopsychosocial aspects of breast cancer. To accomplish these training goals, in addition to coursework, each trainee participates in our regularly scheduled psycho-oncology and breast cancer seminar/workshops held at the SCCC; and undergoes rotations in the psychosocial assessment, behavioral interventions, and statistics core laboratories at our Behavioral Medicine Research Center (BMRC) and at the SCCC. In addition each trainee is given the opportunity to complete other rotations in the immunology and biochemistry assay core laboratories at the University of Miami School of Medicine. They gain direct research experience working on federally-funded research projects with several training faculty members who are actively working in research on breast cancer. One faculty member

from the Health Psychology faculty is designated as primary preceptor and one faculty member from the Departments of Medicine, Oncology, Psychiatry or Epidemiology will serve as the secondary preceptor for each trainee. All trainees are exposed through coursework to experimental design and statistics as well as psychosocial, biobehavioral and pathophysiologic perspectives on breast carcinoma that are provided by way of didactic research seminars and clinical workshops.

(6) BODY

A. Execution of Training Program Design

Training throughout YR 2 continued to be closely coordinated with ongoing biopsychosocial breast cancer research projects including ACS-funded and NCI-funded projects examining factors predictive women's adjustment to surgical mastectomy for primary disease. During YR 2 the NCI-funded project was exclusively focused on the implementation of a cognitive behavioral stress management intervention with women recovering from mastectomy. Because the protocol for this project required that we recruit and screen a new cohort of patients every 5 weeks and then follow them over four timepoints with an assessment battery, there was ample opportunity from this project alone for all trainees to have multiple opportunities for patient contact for the purposes of assessment and intervention experiences. The training program was also able to make use of the faculty, resources, and experiences that we have secured from our ongoing NIMH and NHLBI training grants and parallel NIMH and NHLBI program projects (P01) that are focused on other chronic disease processes. All four of the trainees enrolled are graduate students in Psychology (Health Psychology/Behavioral Medicine) and have offices in the Behavioral Medicine Research Center and affiliated buildings on the campuses of the University of Miami including the School of Medicine Complex and SCCC.

In the current program each trainee participates in regular (weekly and monthly) psycho-oncology and breast cancer didactic seminars, workshops, grand rounds and tumor boards; undergoes rotations in the psychosocial assessment, behavioral interventions, and statistics core laboratories; and has the opportunity to complete other rotations in the clinical immunology and biochemistry assay core laboratories within the University's School of Medicine. During the 02 year each trainee gained experience working on research projects with several training faculty members who were actively working in research on breast cancer. Two trainees completed their first year of our graduate program, one completed her Master's thesis and another finished her coursework and secured a clinical internship and was succeeded on the training program by an newly recruited member of our graduate program. All trainees were exposed through coursework to experimental design and statistics as well as psychosocial, biobehavioral and

pathophysiologic perspectives on breast carcinoma and other chronic diseases. The latter focus was extended by their attendance at the weekly Psycho-Oncology Clinical Workshop, weekly Breast Cancer Team Research Meeting and the monthly Psychoneuroimmunology Journal Club meeting.

Trainee selection. As of September 1995, the beginning of YR 2 of the training program, four (4) trainees were participating in the program. As noted in the YR 1 annual report, two of these students (Christina Wynings and Jessica Lehman) were recruited directly through the existing ranks of Clinical Psychology students who had been admitted at an earlier point. Christina Wynings was transferred from an NIMH training grant in Behavioral Immunology and AIDS and Jessica Lehman was transferred from a Research Assistantship on an NIMH-funded project on AIDS. Their preceptors were as follows: J. Lehman-*M. Antoni/C. Carver*; C. Wynings-*G. Ironson/M. Antoni*. After receiving over 100 applications for the Clinical Health Psychology program, Dr. Antoni culled a set of five applicants who had the most outstanding files based upon Graduate Record Exam scores, grade-point average, excellence demonstrated in prior research experiences, strong letters of recommendation, and an expressed interest in pursuing breast cancer and psycho-oncology as their chief focus during graduate studies in health psychology. From this list, two candidates, Bonnie McGregor and Amy Eisenberg, were offered and accepted positions in our graduate program and served as the two additional trainees in YR 2. Their preceptors were as follows: B. McGregor-*M. Antoni/G. Ironson*; A. Eisenberg-*M. Antoni*. During YR 2, C. Wynings completed all of her clinical, research and academic responsibilities and secured a one-year clinical internship which commenced in September, 1996. After reviewing over 100 applicants to our program, Dr. Antoni chose Susan Alferi to succeed Ms. Wynings. Her preceptors are *M. Antoni/G. Ironson*. The progress of each trainee is detailed in a latter section of this report.

Training structure. A considerable amount of coursework and didactic training was available for trainees, though the major emphasis of the training program is upon direct involvement in research and focused clinical practica. All trainees (as well as other Health Psychology graduate students) spent a substantial portion of their time (approximately 20 hrs per week) conducting research throughout the calendar year. To facilitate this, Health Psychology students were restricted to 10 credits of coursework per semester. In addition to research and coursework the more senior trainees, J. Lehman and C. Wynings completed clinical practica ranging from 7 - 10 hrs/week during the Fall, Spring and Summer semesters during YR 2. The balance of their time was spent attending various didactic experiences (detailed below) as part of the Training Program. The newly admitted trainees, A. Eisenberg and B. McGregor were engaged in coursework and research for Fall 1995 and Spring 1996 semesters before beginning their clinical practica in the Summer of 1996. They also attended the didactic experiences detailed below.

Coursework. Through courses offered in the Health (Clinical) Psychology Program all trainees receive combined training in behavioral medicine research and the development of closely related skills useful for research in health clinical psychology. (see YR 1 Annual Report for details). Briefly, all trainees are required to take a rigorous three semester experimental design and statistics sequence. The first semester of the experimental design and statistics sequence reviews introductory statistics, principles of experimental design, basic computer applications and data management. Subsequently, trainees take courses in Advanced Psychological Statistics and in Multiple Regression Statistics. Trainees must also complete *Core* courses in Psychobiology, Psychopathology, Social Psychology, and Developmental Psychology. In addition to *Core* courses each trainee will complete three courses in Assessment (general psychological assessment and two advanced specialty courses such as Psychological Assessment of Physical Disorders and Neuropsychological Assessment, Advanced Projective Assessment), two additional courses in Pathology (from Fundamentals in Behavioral Medicine, Advanced Behavioral Medicine, Psychoneuroimmunology, Psychophysiology, Psychopharmacology, Advanced Experimental Psychopathology and Psychosomatics), and three courses in Intervention (chosen from Introduction to Psychological Intervention, Cognitive Behavioral Intervention, Psychological Intervention in Physical Disorders, Group Therapy, Family Therapy). At the time of pre-registration each trainee reviews their academic progress and chooses their coursework for the subsequent semester during a face-to-face meeting with their primary preceptor. Because many of the specific activities relating to breast cancer were initiated in YR 1 we included detailed descriptions of these in the YR 1 annual report in a section entitled: Program Development and Growth. For a review of these, please refer to the sections of that report.

B. Program Development and Growth

This section provides an update of those YR 2 experiences and facilities central to the focus of this training program: the biopsychosocial aspects of breast cancer. This section is divided into Symposia/Didactic Experiences, New Ongoing and Pending Breast Cancer Research Protocols, and Cancer Center Facilities and Resources, Trainee Progress, and Publications and Presentations of Training Program Faculty and Trainees.

1. Symposia/Didactic Experiences

The following activities constitute the present symposia/didactic experiences that are made available to trainees for the purpose of providing specific exposure to the biopsychosocial aspects of breast cancer. Some of these activities have mandatory attendance for trainees while others are optional:

- a. Weekly Clinical Psycho-Oncology Workshop
- b. Weekly Breast Cancer (NCI) Research Meeting
- c. Other Training-Related Activities

- Weekly Multidisciplinary Breast Cancer Tumor Board Meeting
- Weekly SCCC Grand Rounds
- Monthly PNI Journal Club
- Weekly Stress Management Group Clinical Supervision
- d. Clinical Rotations
- e. Research Rotations

a. Weekly Breast Cancer (NCI) Research Meeting- Each week during YR 2 all trainees attended a two hour research meeting conducted by Drs. Antoni, Carver and Ironson in the Behavioral Medicine Research Building on the Coral Gables campus. Here issues related to the day-to-day conduct of the ongoing ACS and NCI protocols are discussed. Specific topics centered around subject recruitment, assessment, randomized intervention methods, tracking and retention of subjects, data management and analytic strategies, preparation of reports for publication and presentations for scientific conferences. In addition to faculty and trainees this meeting was attended Dr. Love's staff and post-doctoral fellows who are working on the NCI protocols. In most cases each trainee receives their day-to-day supervision from one of these post-doctoral fellows who in turn reports to Drs. Antoni, Carver and Ironson concerning their research progress.

b. Weekly psycho-oncology clinical workshop.

This workshop commenced in July 1995 and is directed by Alicia Capitaine-Ceballos, Ph.D., the Director of Clinical Services in the Psychosocial Oncology program housed at the newly constructed Courtelis Center for Research and Treatment in Psychosocial Oncology at the SCCC. This weekly seminar uses a small group format to discuss clinical issues relevant to the psychological treatment of cancer patients. The workshop series curriculum for YR 2 was as follows:

<u>DATE</u>	<u>TOPIC</u>
7/26/95	Stresses on Mental Health Professionals in Psycho-oncology
8/2/95	Behavior Techniques: Relaxation and Guided Imagery
8/9/95	Psychological Adjustment to Cancer: Intrapersonal Resources
8/16/95	Psychological Adjustment to Cancer: Interpersonal Resources
8/23/95	Medical Factors and Adaptation: Clinical Course of Cancer I (S. Weiss)
8/30/95	Medical Factors and Adaptation: Clinical Course of Cancer II (S. Weiss)
9/6/95	Medical Status Assessment in Oncology (C. Sandoval)

9/13/95	Role of the Family in Oncology
9/20/95	Oncology Social Work (L. Grenier)
9/27/95	Spirituality in Oncology (B. Black)
10/4/95	Treatment-Specific Psychological Issues: Bone Marrow Transplantation (S. Yount)
10/11/95	Treatment-Specific Psychological Issues: Radiation Treatment (A. Bernstein)
10/18/95	Psychotherapeutic Interventions in Oncology: Cognitive-Behavioral Therapy
10/25/95	Cancer Survivors: Psychological Sequelae
11/1/95	CNS Complications: Delirium, Dementia, Endocrine-related Psychiatric Disorders (S. Crawford)
11/8/95	Psychopharmacological Management of Cancer Patients (C. Sandoval)
11/15/95	Treatment-Specific Psychological Management: Chemotherapy and Surgery
11/22/95	Treatment-Specific Psychological Management: Cancer Pain
11/29/95	Death and Dying Issues
12/6/95	Self-Help and Mutual Support Programs (D. DeMontmollin)
12/13/95	Alternative/Complimentary Cancer Therapies (C. West)

For YR 3 the workshop schedule has been set as follows (sessions occurring during 1997 have not been finalized):

9/18/96	Mental Status Assessment/Psychpharmacological Management of Oncology Patients (C. Sandoval, M.D.)
9/25/96	Nursing Management of the Oncology Patient (S. Weiss, R.N., Ph.D.)
10/2/96	Overview of Psychological Intervention at the Courtelis Center (S. Weiss, R.N., Ph.D.)
10/9/96	Case Conference/Group Supervision (Y. Brown, Ph.D., Susan Yount, Ph.D.)
10/16/96	Clinical Oncology: A Crash Course (N. Spector, M.D.)
10/23/96	Death and Dying Issues in Oncology: Didactic/Discussion (B. Kaplan, Ph.D.)
10/30/96	Treatment Specific Psychosocial Issues: Radiation Therapy (A. Berntien, Ph.D.)
11/6/96	Treatment Specific Psychosocial Issues: Bone Marrow Transplant (S. Yount, Ph.D.)
11/13/96	Case Conference/Group Supervision (T.B.A.)
11/20/96	Treatment Specific Psychosocial Issues: Pain Management (P. Reynolds, M.D.)
11/27/96	NO MEETING- Thanksgiving Holiday
12/4/96	The Role of Social Work in Oncology (L. Grenier, LCSW)
12/11/96	Process Group on Death and Dying Issues

12/18- 1/1/97	(B. Kaplan, Ph.D.) NO MEETINGS-Holiday Break
1/8/97	Case Conference/Group Supervision (T.B.A.)
1/15/97	Hospice Services for Oncology Patients (Lynn Farr, Catholic Hospice)
1/22/97	Role of the Family in Oncology (A. Ceballos, Ph.D.)
1/29/97	Nutrition Issues in Oncology Patients (C. Murray, Ph.D.)
2/5/97	Complimentary Cancer Therapies (C. West, Ph.D.)
2/12/97	Cancer Survivors: Psychological Sequelae (T.B.A.)
2/19/97	Case Conference/Group Supervision (T.B.A.)
2/26/97	Use of Hypnosis and Relaxation with Oncology Patients (T.B.A.)
3/5/97	Introduction and Demonstration of the CIS/NCI Facilities (J. Cornille)

c. Other training-related activities. In addition to these regular activities related to research and clinical training each trainee had the opportunity to attend other Cancer Center activities including the weekly Multidisciplinary Tumor Board meeting and selected SCCC Grand Rounds where they gained knowledge into the medical aspects of diagnosis and treatment procedures for breast cancer patients at various stages of disease. Trainees also participated in two other regular activities at the Behavioral Medicine Research Center on the Coral Gables campus. One of these was the monthly *Psychoneuroimmunology (PNI) Journal Club* wherein health psychology faculty (M. Antoni, G. Ironson) meet with trainees and other health psychology graduate students and post-doctoral fellows to discuss recent articles and innovations in areas of design, assessment and intervention that are relevant to ongoing and planned PNI research in immunologic-related diseases and neoplasias. Cross fertilization of ideas from graduate students and post-doctoral fellows working in different disease areas (e.g., AIDS, cardiovascular disease, and cervical and breast carcinoma) was quite fruitful. Theoretical and practical issues involved in setting up independent research projects that supplement ongoing protocols were discussed and trainees were encouraged to propose small pilot protocols that can be supported by Training Program funds. In general the *PNI Journal Club* experience provided a regular source of research updates and stimulated independent thinking and expansion of ongoing hypothesis testing in a supportive collegial atmosphere. In addition to accessing the Journal Club for research updates each trainee was furnished with an internet account that allowed them to access large research information databases and services including the PNI research networks, MEDLINE and PSY ABSTRACTS.

A second training-related activity that occurred at the Behavioral Medicine Research Center during YR 2 was the *weekly Clinical Supervision for the Stress Management Group Intervention* that is used in two ongoing breast cancer protocols that are evaluating

the effects of cognitive behavioral stress management (CBSM) interventions. All four trainees attended these supervisory sessions which are grouped into two parts: an initial 10-wk training program and a continuing supervision of ongoing groups. The 10-wk training program uses a detailed treatment manual that contains didactic materials, in-session exercises (role-playing stress management techniques and relaxation exercises), and homework assignments for each of 10 modules that make up the intervention used in the ongoing NCI intervention study led by Drs. Antoni, Carver and Ironson. After training was completed, advanced (2nd - 4th year in program) trainees led intervention groups with an experienced post-doctoral fellow or faculty member, and each session was audiotaped to facilitate supervision by Drs. Antoni and Ironson on a weekly basis.

During YR 2 a total of 8 cohorts of women (6 cohorts for an NCI R01 project and 2 cohorts for a study funded by an NCI Development Award) were available for trainees to obtain intervention experience. During this period, three trainees (C. Wynings [3 cohorts], J. Lehman [2 cohorts], and A. Eisenberg [1 cohort] were involved in running CBSM groups with early-stage breast cancer patients. This activity is viewed as an important clinical experience that supplements the other general and specialized health-related clinical practica that students must complete as part of our APA-approved clinical program.

d. Clinical rotations. In addition to research and coursework all trainees are given the opportunity, after completing the appropriate pre-requisites, to take one or more clinical practicum rotations in Clinical Health Psychology that are currently available through our collaboration with the SCCC, Mt. Sinai Medical Center, the Division of Biobehavioral Medicine in the Department of Psychiatry, and the Veterans Administration Medical Center's Psychology Service. For instance, our clinical health psychology graduate students who rotate through the Division of Biobehavioral Medicine's Chronic Medical Disease practicum are given the opportunity to focus on a psycho-oncology specialization in addition to other opportunities in Organ Transplant, Chronic Fatigue Syndrome, AIDS, and Diabetes. The psycho-oncology specialization involves consultation-liaison work with the Department of Oncology and is coordinated through the SCCC. Another clinical practicum in psychosocial oncology is offered at Mt. Sinai Medical Center in Miami Beach. This practicum offers experiences in assessment and intervention with cancer patients dealing with a wide variety of issues such as pain and adjustment following surgery. At the VAMC, students may choose among rotations in Oncology, AIDS, Alcohol and Drug Rehabilitation, Inpatient Psychiatry and Outpatient Psychiatry.

e. Research rotations. An important part of our program is the opportunity it offers trainees to participate in multiple *Research Rotations*. Trainees are encouraged to participate in more than one project and to work in more than one Core facility before becoming fully committed to research in a particular laboratory. In terms of Core Rotations, students are exposed to the Psychosocial/Psychiatric Assessment (Dr.

Antoni), Statistics (Dr. Ironson), Biochemistry (Dr. Kumar), Immunology (Dr. Fletcher) and Behavioral Intervention (Drs. Antoni and Ironson) laboratories concerned with ongoing projects involving other chronic disease populations. In addition to the initial Core rotations, trainees are expected to maintain continuing interactive collaboration between their selected research project and the Cores. During YR 2 we also developed an additional research laboratory alliance designed to provide training opportunities with immunologic assays specific to breast cancer. This laboratory, supervised by a new member the training faculty, Dr. Bonnie Blomberg (Associate Professor of Immunology/Microbiology), is located on the medical school campus. Here Dr. Blomberg is working with one of our trainees, Ms. Bonnie McGregor, to develop specific assays for breast cancer such as lymphoproliferative responses to the mucin, MUC-1, and an ELISA for IgG antibodies to MUC-1. We are also currently involved in developing other research rotations within the SCCC, one focusing in the area of bone marrow transplant and another in the area of genetic screening and counseling of patient with a familial history of breast cancer.

2. Active Biopsychosocial Breast Cancer Research Protocols

One essential feature of the training program experience is the ability to offer trainees the opportunity to work on large-scale research projects focused on the biopsychosocial aspects of breast cancer. As stated previously, based upon grants existing at the commencement of the training program and those obtained during YR 1 trainees have the opportunity to work on one of five different projects:

(1) an ACS-funded study (ACS #PBR-82; "Coping With Breast Cancer Among Low SES Blacks and Hispanics") exploring the role of coping and social support as predictors of adjustment to mastectomy among African American and Hispanic American breast cancer patients (P.I.: M.Antoni). This study recruits patients through the Breast Health Center within the NCI-funded Sylvester Comprehensive Cancer Center. This project was completed during YR 2 and now provides a large database for trainees to examine relations between psychosocial predictor variables and adjustment to breast cancer over the months following surgery;

(2) an NCI-funded R01 project (1R01CA64710-01) entitled "Coping with Breast Cancer in Younger Women" (P.I. : C. Carver, co-P.I.: M. Antoni). This is a 2-part project. Part 1, which was conducted during YR 1 , identifies the major concerns of breast cancer patients in the months following mastectomy and examines the psychosocial predictors of affective, interpersonal and psychosexual adjustment over this period. The chief variables under investigation include vulnerability/resilience, mediating variables of coping, perceptions of partner reactions to surgery, and quality of life. All trainees contributed significantly to the recruiting, scheduling and interviewing of over 200 women for this project during YR2. Two trainees (J. Lehman and A.Eisenberg) plan to develop their thesis and dissertation projects from this project. Part 2, which was

initiated during YR 2, applies information on patients' concerns and predictors of adjustment post-mastectomy to formulate and evaluate the efficacy of a group-based cognitive behavioral stress management (CBSM) intervention on an independent cohort of post-mastectomy patients. The major outcomes in this study are affective, interpersonal and psychosexual functioning. This study recruits patients from the SCCC as well as from a network of surgical oncologists practicing throughout Dade and Broward counties. During YR 2 of the training grant, 6 cohorts of women were run through this protocol. As previously noted, three trainees have participated as group leaders in this CBSM intervention study;

(3) an NCI-supplemental project (1R01CA64710-01) entitled "Lifestyle and Breast Cancer in Cultural and Sexual Minorities" (P.I.: C. Carver, co-P.I.: G. Ironson). This study as a supplement to the parent project just described, examines the special needs of lesbian breast cancer survivors, their concerns and their psychosocial adjustment. Based upon the results of this phase of the study a pilot study will develop and test the effectiveness of a CBSM intervention designed to meet the special needs and concerns of this specific sub-population of breast cancer patients. During YR 2 one of our trainees, Ms. Bonnie McGregor has played an active role on this project as a recruiter/interviewer;

(4) an NCI-funded project entitled " PDQ/PIF Evaluation in Multiethnic Populations" (P.I.: S.Weiss). This study examines the usefulness of patient information files of the PDQ/PIF database for identifying new approaches to presenting information to patients in order to assist them with decision making and impact on their adherence to treatment regimens. This study focuses on ethnic-specific beliefs about health care and cancer, health care delivery, information types and sources , uses of traditional medicines or healers and types of health services utilized;

(5) an SCCC Developmental grant entitled " Stress Management Intervention for Women with Breast Cancer"(P.I. : G. Ironson). This project tests the effects of a 10-week cognitive behavioral stress management intervention on the quality of life, distress, coping and immunologic status of women with early-stage breast cancer in a randomized experimental design. Women complete a comprehensive biopsychosocial assessment battery (including psychosocial interviews and questionnaires and blood draws for immunologic assays) at pre-intervention, post-intervention and at follow-up. During YR 2, two cohorts of women completed this protocol. Two trainees played an active role on this project in YR 2: C. Wynings served as a group leader for each of the two cohorts run, and B. McGregor participated in the blood draws and immune assays for this study.

It is noteworthy that each of projects (2) - (5) involves the examination of the efficacy of psychosocial interventions thus providing a key training opportunity for the trainees. Each trainee is involved in research activities on at least one of these breast

cancer projects. At least three additional biopsychosocial projects dealing with breast cancer patients have been designed and are under review at the present time:

(1) A 3-year project submitted to the DOD designed to examine the effects of CBSM on quality of life, immune function and health in older women who are dealing with the stress of diagnosis and surgery for early-stage breast cancer (P.I.: M. Antoni).

(2) A 3-year project submitted to the DOD designed to examine the effects of CBSM on distress and immune status in breast cancer patients who have completed their adjuvant therapies (P.I.: G. Ironson).

(3) A 5-year project submitted to the NIH designed to test the effects of CBSM on quality of life, immune status and infectious disease symptoms in older women (> 65yrs) who are adjusting to the initial diagnosis and treatment for early-stage breast cancer (P.I.: M. Antoni).

These projects deal with evaluating the concerns of breast cancer patients and the efficacy of psychosocial interventions with this group across a wide range of ages and ethnic groups. Our ultimate goal is to have a comprehensive program of research that addresses the major concerns of breast cancer patients from different ethnic groups, SES groups and age groups at multiple stages of disease through the use of prospective natural history studies whose results lead directly to the development of theoretically-driven and empirically-validated psychosocial interventions specifically tailored to the chief concerns of breast cancer patients, and to modulating the mediators of psychosocial adjustment and physical health for each group. Our goal is to couch all of these activities in the context of a joint collaboration between the Department of Psychology, the SCCC and the Departments of Medicine and Psychiatry. This collaborative arrangement not only facilitates the conduct of this research but also provides a state of the art training environment.

3. SCCC Programs, Facilities and Resources

A detailed description of the SCCC programs, facilities and resources was provided in the YR 1 annual report. This center continues to be a major organ for the conduct of the academic, research and clinical activities in this training program. Three major advances in the SCCC that occurred during YR 1 of the training program were noted in the previous annual report: the creation of the Courtelis Center for Research and Treatment in Psychosocial Oncology, the expansion of the SCCC Breast Cancer Research Program, and the formation of the SCCC Biopsychosocial Oncology Program. All of these developments were instrumental in the continued growth of the research and clinical opportunities available to trainees during the YR 2 period.

Specifically the Courtelis Center provided the following clinical opportunities for trainees: psychiatric, psychological and social work consultation; individual, family and group counseling; stress reduction techniques such biofeedback, relaxation, and imagery techniques and massage; acupuncture; nutritional counseling; pastoral counseling; a patient education library; and a community outreach program made up of seminars, workshops and retreats which integrate physical, psychological and spiritual dimensions of healing. The Center is staffed by a multidisciplinary team of clinical psychologists, psychiatrists, clinical social workers, nurses, and post-doctoral fellows and provides a training site for psychology interns as well as the pre-doctoral health psychology graduate students participating in this training program. During the YR 2 period, C. Wynings completed clinical rotations at the Courtelis Center, and J. Lehman has just begun a clinical rotation as of 9/1/96.

During the YR 2 period, the Breast Cancer Research Program continued to expand its portfolio of breast cancer-relevant projects. As noted in the previous annual report, this program is organized into three project areas--*Basic Science Program, Clinical Research Program, and Cancer Control Program*--and a central core facility, the multidisciplinary Breast Cancer Evaluation Center whose director is Sharlene Weiss, Ph.D., the co-P.I. of this training program. Trainees completing rotations in the SCCC had the opportunity to complete a large volume of psychosocial screening and assessment batteries with patients attending these various programs.

The Psychosocial Oncology Program, the newest program to be developed at the SCCC encompasses the Multidisciplinary Breast Cancer Center, the Psycho-Oncology component of the Cancer Control Program, and the Courtelis Center for Research and Treatment in Psychosocial Oncology. This program achieves its aims *by providing core resources for pilot studies to develop and/or integrate common data elements for cross-study comparisons of different populations; establishing collaborative relationships with ongoing programs in other departments* (e.g., psychology, psychiatry) and laboratories to foster multidisciplinary research; *convening regular seminars and research meetings between P.I.s of ongoing projects* and potential new investigators and others in training to facilitate communication between laboratory and clinical investigators; and by *establishing a comprehensive psycho-oncology database* for all clinical oncology patients. Several activities planned for YR 3 will be fostered by this program including the development of the genetic screening program for women with a familial history of breast cancer.

Special Events During YR 2 of the Training Program. *The symposium on Stress and Coping* sponsored by the Department of Psychology and the School of Medicine focused this year on Stress, Coping and Developmental Disorders. This event was a 2-day Symposium attended by training faculty and trainees and involved empirically-based presentations by national and international behavioral medicine researchers. Although the topics of these talks did not involve Psycho-Oncology many generic issues relevant to the

conduct of behavioral medicine research (statistical analytic models, stress-coping theoretical models, and methodological issues involved in the assessment of coping).. Training faculty and trainees presented a number of abstracts and papers in the scientific program of the 4th International Congress of Behavioral Medicine held in Washington, D.C. in March 1996. Our team also presented papers at the annual scientific meetings of the American Psychosomatic Society and the American Psychological Association during 1996. All students attending these meetings to present the results of their research were subsidized for their travel costs by the Department of Psychology.

4. Progress of Trainees

Christina Wynings GRE: 1440 G.P.A.: N/A Yale/Stanford

Ms. Wynings was transferred from an NIMH traineeship in Behavioral Immunology and AIDS in September, 1994. During her prior traineeship she co-managed an NIMH-funded psychoneuroimmunologic study examining the effects of Hurricane Andrew upon affect, intrusive thoughts and immunologic function among 180 citizens sampled from the neighborhoods that were in the path of the storm in Dade County, Miami, Florida.

During the YR 2 period of the present training grant she developed a manuscript from her M.S. Thesis examining the influence of social support and social networks as buffers of the stress of the hurricane and its associated losses. During YR 2, Ms Wynings presented a paper based upon the results of this study at the 4th International Congress of Behavioral Medicine. During YR2 Ms. Wynings dedicated the bulk of her research time to working on the NCI-funded project on " Adjustment to Breast Cancer Among Younger Women". She co-authored one abstract based upon this study that was presented as a poster at the 4th International Congress of Behavioral Medicine. During the YR 2 she has attended weekly breast cancer research meetings, the monthly seminar on Psycho-oncology Research in Breast Cancer, and served 15 -20 hrs per week collecting data on the NCI project. During this period she continued to gain specific knowledge in recruitment strategies, psychosocial assessment, data management and statistical analysis. She has developed a focused interest in examining the role or social support as a predictor of adjustment to surgery.

Ms. Wynings led several CBSM groups with breast cancer patients during the YR 2 period. During YR 2 she completed all of her advanced coursework in clinical health psychology and successfully defended her dissertation. Ms. Wynnings completed one clinical practicum at the Mt Sinai psychosocial oncology program and another at the SCCC. During the YR 2 period Ms. Wynings also secured an APA-approved clinical internship at the Northwest Dade Community Center in Ft. Lauderdale, Fl. In July 1996 she submitted a proposal to the DOD for a post-doctoral fellowship in psychosocial research in breast cancer that will allow her to apply her thesis and dissertation findings concerning the buffering effects of social support in disaster victims to the context of breast cancer patients adjusting to surgery and treatment for breast cancer.

Jessica Lehman

GRE: 1340

G.P.A.: 3.87 Goshen College

Since joining the training program Ms. Lehman has completed advanced pre-doctoral coursework in family therapy, neuroanatomy, psychological intervention in physical disorders, and social psychology. As part of our graduate program requirement she also taught an undergraduate course in the Psychology of Women. During YR 2 she defended her M.S. Thesis entitled "Coping with Chronic Illness and Hurricane Andrew and Its Relationship to Symptoms, Immune Function and Illness Burden in Chronic Fatigue Syndrome". This work examines how individual patient's coping strategies can moderate the impact of external stressors on their adjustment to and health course of their medical condition. During YR 2 she also successfully passed her clinical qualifying exams and was admitted to candidacy for her Ph.D.

During the YR 2 period Ms. Lehman continued to be extensively involved in both the ACS and NCI projects of Drs. Antoni and Carver. She worked 15 -20 hrs /week in various project activities including: recruiting subjects, conducting psychosocial interviews, training new students, maintaining liaison with the surgical oncology offices, managing the project database, and entering data from the interviews. During the 02 year Ms. Lehman also co-authored an empirical abstract based on her work on the NCI project that was presented at the 4th International Congress of Behavioral Medicine in March, 1996. Additionally, she presented a poster at the 1996 International Congress of Behavioral Medicine entitled: "The Relationship of Coping Strategies to the Immunological and Physical Status of Patients with Chronic Fatigue Syndrome."

She also co-led two CBSM groups as part of the NCI protocol during YR 2. In addition to these activities Ms. Lehman completed one clinical practicum rotation at the VAMC working with terminally ill patients and geriatric patients where she gained experience in working with issues related to death and dying. She recently began a rotation at the SCCC where she will gain specific assessment and intervention experience with patients with different types of cancer. She plans to defend her dissertation proposal exploring the role of coping processes in emotional adjustment among early-stage breast cancer patients early in the YR 3 period. To date she has collected interview data from over 200 women for this project. She will be applying for a clinical internship position during YR 3. This trainee is making excellent progress in academic coursework, teaching, research training and clinical training.

Bonnie McGregor

GRE Total: 1250

GPA:3.28 Pacific Lutheran

Ms. McGregor completed her B.S. degree from Pacific Lutheran University in 1984 and before completing two years in a histocompatibility lab conducting tissue typing and cross matching for bone marrow, kidney and heart transplants. This post-graduate experience led her to the research she has been conducting for the past 7 years on examining B-lymphocyte defects and cytokine regulation abnormalities in bone marrow transplant patients at the Fred Hutchinson Cancer Center at the University of Washington School of Medicine. During this period Ms. McGregor also managed the clinical immunology laboratory service for the cancer center and was responsible for tracking changes in immune function over the one-year post-transplant period and acquiring, organizing, and analyzing patient data for both research and clinical purposes. Ms. McGregor expressed a particular interest in focusing her graduate training in Health Clinical Psychology in the area of psychosocial intervention and psychoneuroimmunologic aspects of psycho-oncology with a special emphasis on breast cancer. Her commitment to a career in clinical oncology research in general and in the area of psycho-oncology in particular along with her years of research experience made

Ms. McGregor began the training program in YR 2. Since joining the training program Ms. McGregor has enrolled for the full academic load of core courses and has been working 15-20 hrs/wk on research-related activities. Specifically she has participated on the NCI project on a cross-sectional study examining major concerns of breast cancer patients post-mastectomy and factors associated with adjustment in the months following surgery. She has also participated in the development of Part 2 of this NCI project which examines the effects of a cognitive behavioral stress management intervention on patients adjustment following mastectomy. As part of her work on this project, Ms. McGregor is developing a sub-project to assess immunologic changes that occur over the intervention period. This sub-project was approved by the University's IRB and commenced in early 1996. In the context of developing the blood draw and assay activities for this protocol this trainee has gained specific experience in biopsychosocial applications of psychotherapeutic interventions and psychoneuroimmunology to breast cancer--her primary interest area. In order to conduct the immune assays for this study, Ms. McGregor has obtained space in a laboratory directed by Dr. Bonnie Blomberg, an Associate Professor of Immunology and Microbiology at the University of Miami School of Medicine, with whom she is working to develop antigen-specific immune assays for her PNI research with breast cancer patients. To date a number of patients enrolled in the NCI intervention study have provided blood samples and allowed skin test antigens to be placed as part of the protocol for this substudy. During YR 2 she was also actively involved with Dr. Antoni in the preparation of a grant proposal submitted to the DOD to examine the effects of a CBSM intervention on quality of life, several *in-vivo* and *in-vitro* cellular and humoral immune system measures, and the incidence of infectious disease symptoms in older women with early-stage breast cancer. In addition to her research activities related to breast cancer, Ms. McGregor also completed a prospective study

examining the effects of graduate school examinations on B-cell related measures in advanced graduate students. She also networked with colleagues at the Fred Hutchinson Cancer Center to conduct analyses of data from a bone marrow transplant study that she had completed before moving to Miami and which she plans to use for her Master's thesis. During YR 2 Ms. McGregor also attended weekly meetings of the Breast Cancer rovides a state of the art training environment. conduct of this research but a relationship with the Research Assistants and Post-Doctoral Fellows working in breast cancer psycho-oncology research.

Amy Eisenberg GRE Total: 1320 G.P.A: 3.51 U. Penn.

Ms. Eisenberg was admitted to the training program shortly before the commencement of YR 2. Before coming to the program she completed her undergraduate training at the University of Pennsylvania where she worked in the laboratory of Dr. Martin Seligman conducting studies on the correlates of attributional style. After completing her degree she worked at the Memorial Sloan-Kettering Cancer Center as a full-time research assistant with Sharon Manne, Ph.D. Specifically she worked on an NCI-funded longitudinal study examining how couples cope with breast and colon cancer and chemotherapy treatment over a 4-month period. During YR 2 in our training program Ms. Eisenberg completed a full academic load of core courses (including Psychological Assessment, two semesters of Advanced Statistics, Fundamentals of Behavioral Medicine, Pre-Practicum, and Intermediate Behavioral Medicine) and worked 15 -20 hrs/wk on research-related activities. Specifically she has participated on the NCI Project on a cross-sectional study examining major concerns post-mastectomy and factors associated with adjustment in the months following surgery. On this team she has gained experience in patient contact and recruitment, telephone administration of questionnaire packets, coordinating with the network of surgical oncology offices involved in the study, and database management. Based upon her work on this project Ms. Eisenburg has developed a special interest in studying how breast cancer patients' perception of positive experiences surrounding diagnsois of cancer are predictive of emotional adjustment in the months following surgery, an area that will form the basis of her Master's Thesis. She attended weekly meetings of the Breast Cancer research team and PNI Journal Club meetings throughout YR 2 and established an excellent working relationship with the research assistants and post-doctoral fellows working in breast cancer psycho-oncology research. During YR 2 she also began her clinical activities. During the summer of 1996 she completed a clinical rotation at the Psychological Services Center that involved asessement and individual therapy cases, a site where she is continuing during the Fall semester. At the end of YR 2 Ms. Eisenberg served as a group leader for the CBSM group in the NCI intervention project. She also attended a psychoeducational group for breast cancer patients at Mount Sinai in order to learn more about the process these patients go through and to be more aware of psychological issues they find most pressing. During YR 2 Ms. Eisenberg co-authored (with Sharon Manne, Ph.D. and Deborah Miller, Ph.D) an abstract that was submitted for the 1997 annual

meeting of the Society of Behavioral Medicine entitled, "Predictors of Coping Effectiveness Among Cancer Patients". This paper is based on research she conducted at Memorial Sloan Kettering Cancer Center over the two years prior to joining our program. She is also planning to submit a paper based on her work on our NCI project to the 1997 American Psychological Association meeting. Ms. Eisenberg is making excellent progress in her academic coursework, clinical training and research.

Susan Alferi

GRE Total: 1270

G.P.A: 3.93 U.Miami

Ms. Alferi was admitted to the program in August, 1996. Before coming to the program she had obtained a number of years experience working with behavioral medicine researchers at the University of Miami concurrent with her completion of an undergraduate degree in Psychology in which she graduated Magna Cum Laude. She worked 25 hours a week with Robert Malow, Ph.D. conducting clinical research in HIV prevention under a NIDA funded grant with perinatal, indigent substance abusers and adolescent substance abusers during the period of July 1994 to July 1996. Her responsibilities included administering semi-structured interviews pertaining to sexual and drug behavior, developing a manual for adolescent HIV prevention groups, grant preparation and writing, and running HIV psychoeducation groups focusing on condom demonstration and barriers to condom use. She has co-authored a number of articles and paper presentations based upon this work.

Concurrent with her work with Dr. Malow's team Susan also been involved in two other research projects conducted by Dr. Gail Ironson at the Department of Psychology at the University of Miami- one an NIMH-funded research project investigating the psychosocial, immunologic and health sequelae of Hurricane Andrew in a community sample drawn from South Dade county. The other project investigated the psychosocial and immunologic characteristics of HIV-infected men who are long-term survivors of AIDS. In both of these projects Susan has been chiefly responsible for recruiting subjects and collecting and preparing blood and urine samples for assays. This work has recently culminated in Susan's preparation of a Senior Honors Thesis entitled "The relationship between coping mechanisms and EBV in Hurricane Andrew victims". This prospective study has the potential to make a meaningful contribution to the psychoneuroimmunology literature.

She also worked on a research team led by Dr. Antoni conducting an NIMH-funded project examining the effects of a cognitive behavioral stress management intervention on psychological adjustment, immune functioning and health in HIV-infected gay men. Susan began work on this project coding and entering data and progressed to conducting psychosocial assessments with research subjects. She also contributed to the preparation of abstracts for presentation at scientific meetings. She is currently enrolled in a full load of academic coursework, attends the weekly NCI Research group meeting and is working

on the NCI project in the role of recruitment, screening and psychosocial interviewing of women with early-stage breast cancer.

5. Publications and Presentations of Training Faculty and Trainees During YR 2

PUBLICATIONS IN REFEREED JOURNALS

* trainees

van der Pompe, G., Antoni, M.H., Duivenvoorden, H., & Heijnen, C. The relations between plasma ACTH and cortisol levels and the distribution and function of peripheral blood cells in response to acute stress in breast cancer.
Psychophysiology (submitted)

van der Pompe, G., Antoni, M.H., Vries-Kragt, K., Pelgrim, F., Visser, A., Vries, M. Prediction of psychological adjustment to breast cancer after participation in group psychotherapy: An empirical exploration. *J. Clinical Psychology* (submitted).

van der Pompe, G., Antoni, M.H., Visser, A., & Heijnen, C. Immune and cardiovascular responsivity to a standardized laboratory challenge in breast cancer patients and healthy women. *Cancer Immunology and Immunotherapy* (submitted).

Ireland, S.J., Malow, R.M., Penedo, F.J., Roatta, V.G., Alberga, L., & Alferi, S.M.* (in press). Predictors of HIV risk behavior among non-injection drug-dependent African American women. *NIDA Research Monographs*.

Malow, R.M., Ireland, S.J., Ziskind, D., Alberga, L., Roatta, V.G., Alferi, S.M.* & Penedo, F.J. (in press). Acceptability of virucides as an HIV preventive among non-injection cocaine dependent men. *NIDA Research Monographs*.

Witherspoon, R., McGregor*, B., Danyu, L., Mori, M. & Storb, R. Recombinant human Interleukin-4 proliferation of B lymphocytes from chronic GVHD patients. (under review)

Ironson, G., Wynings*, C., Schneiderman, N., Baum, A., Rodriguez, M., Greenwood, D., Benight, C., Antoni, M., LaPerriere, A., Huang, H., Klimas, N., & Fletcher, M.A. (in press) Post-traumatic stress symptoms, intrusive thoughts, loss and immune function after Hurricane Andrew. *Psychosomatic Medicine*.

Burnett, K., Ironson, G., Benight, C., Wynings, C*, Kumar, M., Greenwood, D., Carver, C., Baum, A., Schneiderman, N. (in press) Chronic stress and mental health during rebuilding following Hurricane Andrew: The secondary disaster. *Journal of Traumatic Stress*.

van der Pompe, G., Antoni, M.H., & Heijnen, C. (in press) Elevated basal cortisol levels and attenuated ACTH and cortisol responses to acute stress in women with metastatic breast cancer. *Psychoneuroendocrinology*.

Mulder, N., Antoni, M.H., van der Mast, R., & Duivenvoorden, H. (in press) Stressful life events and coping resources as determinants of psychiatric symptoms during one year in HIV-infected homosexual men. *Psychological Medicine*.

Lutgendorf, S., Antoni, M.H., Ironson, G., Klimas, N., Fletcher, M.A., Schneiderman, N. (in press) Cognitive processing style, mood and immune function following HIV seropositivity notification. *Cognitive Therapy and Research*.

Lutgendorf, S., Antoni, M.H., Ironson, G., Klimas, N., Starr, K., Schneiderman, N., McCabe, P., Cleven, K., & Fletcher, M.A. (in press) Cognitive behavioral stress management decreases dysphoric mood and Herpes Simplex Virus-Type 2 antibody titers in symptomatic HIV-seropositive gay men. *Journal of Consulting and Clinical Psychology*.

LaPerriere, A., Ironson, G., Antoni, M.H., & Schneiderman, N. (in press) Psychoneuroimmunologic benefits of exercise. *Sports Medicine*.

Lollis, C., Johnson, E., Antoni, M.H., & Hinkle, Y. (in press) Characteristics of African Americans with multiple risk factors associated with HIV/AIDS. *Journal of Behavioral Medicine*,

Van der Pompe, G., Antoni, M.H., Visser, A., & Garssen, B. (1996) Adjustment to breast cancer: The psychobiological effects of psychosocial interventions. *Patient Education and Counseling*, 28, 909- 919.

Starr, K., Antoni, M.H., Hurwitz, B., Rodriguez, M., Ironson, G., Fletcher, M.A., Kumar, M., Patarca, R., Lutgendorf, S., Quillian, R., Klimas, N., & Schneiderman, N. (1996) Patterns of immune, neuroendocrine, and cardiovascular stress responses in asymptomatic HIV seropositive and seronegative men. *International Journal of Behavioral Medicine*, 3, 135 - 162.

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Mulder, N., Antoni, M.H., Emmelkamp, P., Veugelers, P., Sandfort, T., van der Vijver, F., & de vries, M.(1995) Psychosocial group intervention and the rate of decline of immunologic parameters in asymptomatic HIV-infected homosexual men. *Journal of Psychotherapy and Psychosomatics*, 63, 185-192.

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Summary of Funded Breast Cancer Psycho-Oncology Projects
(see also Appendix 2 and 3)

<u>P.I.</u>	<u>Source</u>	<u>Grant #</u>	<u>Dates</u>	<u>Title</u>
C. Carver	NCI	1R01CA64710-01	10/1/94 - 8/30/96	Lifestyle and Breast cancer in Cultural and Sexual Minorities
C. Carver	NCI	1R01CA64710-01	7/1/94- 6/30/98	Adjustment to Breast Cancer among Younger Women
S. Weiss	NCI	not available	9/30/94- 6/30/95 (extended)	PDQ/PIF Evaluation in Multiethnic Populations
M. Antoni	ACS	PBR-82	7/1/93- 6/30/95 (completed)	Coping with breast cancer among low SES Blacks and Hispanics
G. Ironson	NCI-Dev	—	1/1/95 - 12/31/95 (extended)	Stress Management Intervention for Women with Breast Cancer

Proposed Projects Pending Funding

<u>P.I.</u>	<u>Source</u>	<u>Grant #</u>	<u>Dates</u>	<u>Title</u>
M. Antoni	DOD	N/A	10/1/97-9/30/00	Stress Management Effects on Quality of Life, Immune Status and Health in Women with Early-Stage Breast Cancer
M. Antoni	NIA/NCI	N/A	7/1/97-6/30/02	CBSM Effects on Quality of Life and Health in Older Breast Cancer Patients
G. Ironson	DOD	N/A	10/1/97-9/30/01	Biological Changes Following Psychosocial Interventions in Breast Cancer

(7) CONCLUSIONS

YR 2 of the training program was quite successful in accomplishing the general mission of providing multidisciplinary research training in biopsychosocial aspects of breast cancer in the context of predoctoral training in Clinical Health Psychology. Four trainees were enrolled in the training program at the commencement of YR 2. One trainee completed her graduate school training, defended her dissertation, secured an APA-approved clinical internship, and submitted a proposal for a DOD-sponsored post-doctoral fellowship in breast cancer research. Upon this trainee's departure from the program in August, 1996, a new trainee was enrolled. The three other trainees are making excellent progress in the program.

Training was closely coordinated with 5 ongoing ACS-funded and NCI-funded biopsychosocial breast cancer research projects. Trainees also participated in the preparation of new grant proposals focusing on biopsychosocial research in breast cancer. All trainees were exposed through coursework to experimental design and statistics as well as psychosocial, biobehavioral and pathophysiologic perspectives on breast carcinoma and other chronic diseases. The latter focus was extended through the program's weekly Psycho-Oncology Clinical Workshop, weekly Breast Cancer Team Research Meeting, and the monthly Psychoneuroimmunology Journal Club meeting. There was a significant amount of development and growth in the training program across the following areas: Symposia/Didactic Experiences; Active Biopsychosocial Breast Cancer Research Protocols; Cancer Center Programs, Facilities and Resources; Trainee Progress; and Publications and Presentations of Training Program Faculty and Trainees. Advances in the Sylvester Comprehensive Cancer Center (SCCC) that occurred during YR 1 which are highly relevant for the training program during YR 2 included the creation of the Courtelis Center for Research and Treatment in Psychosocial Oncology, expansion of the SCCC Breast Cancer Research Program, and formation of the SCCC Biopsychosocial Oncology Program. All four

trainees appear to be making excellent progress in coursework, research training and clinical training.

At least three additional biopsychosocial projects have been proposed to government agencies for funding and are under review at the present time. These projects deal with evaluating the concerns of older breast cancer patients and the efficacy of psychosocial interventions with this group. Our ultimate goal is to have a comprehensive program of training and research that addresses the major concerns of breast cancer patients from different ethnic groups, SES groups and age groups at multiple stages of disease through the use of prospective natural history studies whose results lead directly to the development of theoretically-driven and empirically-validated psychosocial interventions specifically tailored to the chief concerns and to modulating the mediators of psychosocial adjustment and physical health for each group. Our goal is to couch all of these activities in the context of a joint collaboration between the Department of Psychology, the SCCC and the Departments of Medicine and Psychiatry at the University of Miami. This collaborative arrangement not only facilitates the conduct of this research but also provides a state of the art training environment.